

## ***BZP AND TFMPP: CHEMICALS USED TO MIMIC MDMA'S EFFECTS***

### **OVERVIEW**

Benzylpiperazine (BZP) and trifluoromethylphenylpiperazine (TFMPP),<sup>1</sup> are increasingly trafficked as MDMA (Ecstasy). These chemicals, which produce stimulant and hallucinatory effects similar to MDMA, are not currently listed under the Controlled Substances Act. In 2000, federal, state, and local authorities began seizing increasing amounts of tablets, capsules, and powder containing either BZP or TFMPP or more commonly, a mixture of both chemicals. Evidence indicates that some traffickers use these chemicals as substitutes for MDMA. Although deaths and overdoses associated with these chemicals have not been reported in the United States, the potential for adverse reactions exists.



**BZP tablet seized by the DEA Sacramento, California District Office**

### **BACKGROUND**

BZP and TFMPP are part of a class of chemical compounds known as piperazines, which are used as chemical intermediates in the production of certain detergents and pharmaceuticals. Piperazines are also used in medications to treat parasitic infections, and are metabolites in some drugs used to treat depression, anxiety, and hypertension. Medical research continues on the use of piperazine derivatives as possible vasodilators and tumor-reducing agents. Current studies related to piperazines mainly concentrate on the effect these chemicals have on the serotonin systems of the brain.

### **USE AND EFFECTS**

Adolescents and young adults involved with the current rave culture are the primary abusers of these chemicals, sometimes referred to as “Legal E” or “Legal X.” Dealers and abusers, however, may not know they are selling or ingesting BZP or TFMPP. In some seizures, tablets containing BZP and TFMPP were confiscated along with tablets containing MDMA.



**Combination BZP-TFMPP tablets seized by DEA Sioux City, Iowa Resident Office**

<sup>1</sup> 1-Benzyl-piperazine and 1-[3-Trifluoromethylphenyl]-piperazine

BZP is reported to produce stimulant effects similar to amphetamine, while TFMPP has the reputation of producing the psychoactive effects of MDMA. Increased heart rate, blood pressure, and body temperature also have been associated with the ingestion of some piperazine derivatives. In high doses, piperazines produce hallucinations, convulsions, and respiratory depression. BZP and TFMPP are also skin irritants; therefore, individuals who inhale powder or crushed tablets may develop sore throats and nasal passages.

No deaths or overdoses in the United States have been attributed to the ingestion of BZP or TFMPP. According to a report from University Hospital in Zurich, Switzerland, one overdose death was associated with BZP.<sup>2</sup> A young female attending a rave party ingested two capsules of BZP, one tablet of MDMA, and approximately 10 liters of water over a 15-hour period. She experienced a frontal headache, minor malaise, disorientation, dizziness, and somnolence before succumbing to death as a result of hyponatremia (low sodium levels) and massive brain edema. The exact role of BZP in this case is not known.

## MANUFACTURE/PRODUCTION

BZP, TFMPP, and other piperazine derivatives are legitimately manufactured in India and may be purchased in Europe, the United Kingdom, and the United States through several bulk chemical supply companies. BZP and TFMPP are relatively inexpensive costing approximately \$0.40 and \$4.50 per gram respectively. The clandestine manufacture of BZP and TFMPP has not been reported in the United States. However, BZP and TFMPP powder has been encapsulated or pressed into tablets by organizations operating in the United States. A majority of the tablets seized have contained both BZP and TFMPP. Tablets analyzed by federal, state, and local laboratories indicate that they typically weigh between 200 and 500 milligrams and usually contain a 2:1 ratio of BZP to TFMPP.

## DISTRIBUTION AND TRAFFICKING

The distribution of BZP and TFMPP is minor in comparison to MDMA. The primary illicit distributors of these chemicals are domestic organizations with connections to overseas sources of supply. Since BZP may also be obtained from both illicit and legitimate websites, some organizations and individuals may also use the Internet to facilitate purchases.



**Combination BZP-TFMPP tablets concealed in a vitamin container seized by the DEA Hartford, Connecticut Resident Office**

Illicit organizations are suspected of importing the chemicals either directly into the United States or through Mexico. Once the chemicals reach the United States, the BZP and TFMPP powder is processed into capsules and tablets, sometimes with logos so that they resemble MDMA. The finished product is primarily sent via overnight delivery services to distributors or customers throughout the United States—sometimes concealed in vitamin containers. These organizations also distribute other drugs such as marijuana, MDMA, 2C-B (Nexus), ketamine, and steroids.

In Europe, BZP, known there as A2, is sold legally through websites and is touted as a cheap and safe alternative compared to illicit amphetamines. Also, in New Zealand, a company that promotes BZP as a stimulant legally markets the chemical under the brand name “Nemesis.”

## SEIZURES

Since 2000, seizures of BZP and TFMPP tablets, capsules, and powder have increased in the United States. Seizures have occurred in California, Connecticut, Florida, Illinois, Iowa, Louisiana, Minnesota, Rhode Island, Texas, and Virginia, at the dealer and user levels. In 2001, federal, state, and local authorities effected several large seizures of BZP, TFMPP, and other piperazine derivatives in tablet and powder forms. Approximately 5,000 tablets were seized in Norwich, Connecticut; 1,008 tablets in Sioux City, Iowa; and 1,000 pounds of powder in Austin, Texas.



**Combination BZP-TFMPP tablets seized by the Salem, Virginia, Police Department**

BZP and TFMPP have been commonly marketed either as pink, tan, white, green, purple, or off-white pills. These tablets have been imprinted either with a fly, crown, heart, butterfly, or bull's head logo; however, some have no logo. In addition, these chemicals have also been seized in clear capsules containing an off-white powder.

## CONCLUSION

The Drug Enforcement Administration continues to investigate and gather intelligence on organizations involved with the importation, trafficking, and distribution of BZP, TFMPP, and other related substances. As previously stated, BZP, TFMPP, and other piperazine derivatives are not currently controlled; however, efforts are underway to gather the necessary data to determine whether emergency or traditional scheduling is warranted. Individuals and organizations currently trafficking, distributing, or possessing these substances with the intent for human consumption, can be prosecuted under federal and most state drug-analog statutes.

<sup>2</sup> Balmelli A, Kupferschmidt H, Rentsch K, Schneemann M. Department of Internal Medicine, Institute of Clinical Chemistry, Division of Clinical Pharmacology and Toxicology, University Hospital, Zurich, and Swiss Toxicological Information Centre, Zurich, Switzerland, 2001, XXI International Congress of EAPCCT, Barcelona.

This report was prepared by the Domestic Strategic Unit of the Office of Domestic Intelligence. This report reflects information received prior to November 2001. Comments and requests for copies are welcome and may be directed to the Intelligence Production Unit, Intelligence Division, DEA Headquarters, at (202) 307-8726.